

Theater Support Vessel

***Advanced
Concept
Technology***

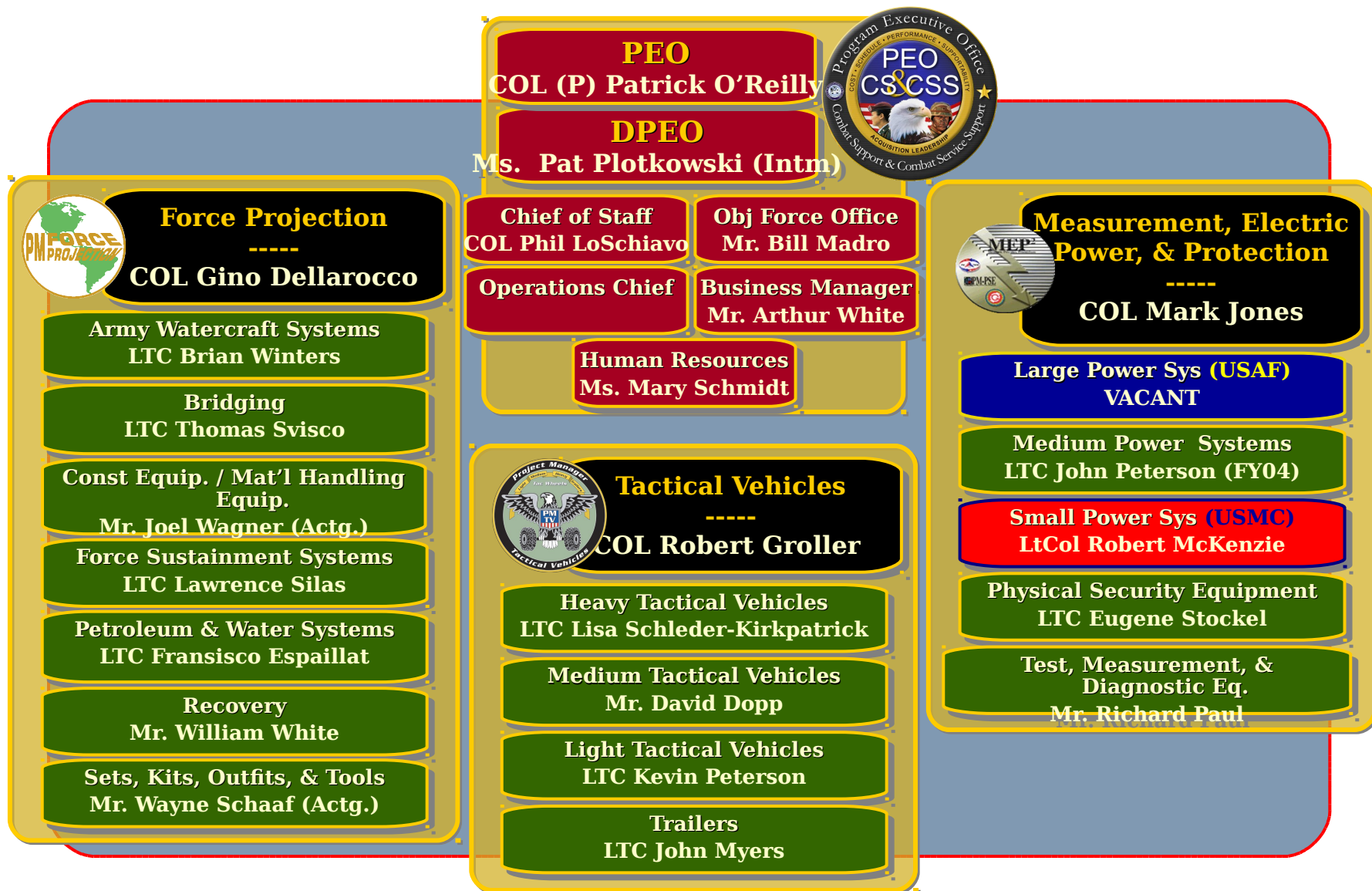


Demonstrator



LTC Philip Schoe
27 January 2004

PEO CS&CSS Organization





PM Army Watercraft Systems

PM

LTC Brian Winters
586-574-8830

DPM-Current Systems

Mr. Jim Folkl
586-574-8829

DPM-TSV

Mr. Mick McGee
586-574-5240

Admin Assistant
Erin Wood
586-574-5240

Admin Assistant
Peggy Bechtel
586-574-8829/8830

Heavy Boats

LSV Reprocure
Colleen Helmick
586-574-8844

LSV Mod
Bob Noel *
586-574-8844

LCU 2000
Phyllis Pope
586-574-3931

LCM8 Mod II
Toniya King
586-574-6059

Large Tug
Jeff Darnell
586-574-6217

Support Systems

C4I Upgrade
Doug Belanger
586-574-6081

CMF
Steve Dull
586-574-8770

HCCC
MAJ Simpson*
586-573-2772

Maritime Integrated Training System
MAJ Simpson*
586-573-2772

Causeways and Harbor Craft

MCS
Fred Williams
586-574-6833
Kerry Riese
586-574-7926
Brenda McKinney

Small Tug
Terry Lauscher
586-574-8141

BD-115T
James Stephens*
586-573-2245
RIBS
TARDEC

Future TSV

Tracy Mitchell
586-574-5375

Program Development
Bob Noel *
586-574-8834
Ian Valentine
586-574-4182

Technical Mgt

Don Paskulovich
586-574-7641

MAJ Simpson*
586-573-2772
Pat Papa
586-574-5210
MAJ Oderkirk
586-574-8844

TSV ILS
Chanda Smith
586-574-8842
(Matrix)

Current TSV
Kathy Lytle
586-574-3953

HSV-X1
Fred Chapin
586-574-8040
Ali Baziari

TSV-1X
James Stephens*
586-573-2245

TSV-ACTD
Chris Maluchnik
586-574-7664

15 Programs

\$1,268.3 M
(FY02-09)

- Core
 - Civilian - 26
 - Military - 4

* Assigned to TSV Team - still working Current Fleet Programs

Watercraft Systems Integrator

CW3 Garry Miller

ACTD Background

- **First ACTDs initiated in Fiscal Year 1995**
- **ACTD structure and execution focus has continued to change since the start:**
 - **Adapted to and drives the DoD acquisition reform initiatives**
 - **A more defined selection process**
 - Annual Call for proposals
 - Concentrated Breakfast Club review
 - Approval process culmination in JROC prioritization & approval
 - **Major focus and shift since program inception on joint warfighting issues**
 - Significant involvement of Combatant Commanders
 - ACTD growth mirrors development & prominence of Combatant Commanders

Anatomy of an ACTD

- **Addresses an important military need with mature technology**
- **Provides a technology solution with demonstrated CONOPS**
- **Evaluates a solution in field demonstrations conducted by warfighters**
- **Usually joint, often combined/coalition forces or organizations**
- **Multi-agency**
 - Developer service/agency: Technical Manager
 - Sponsoring Combatant Commander: Operational Manager
 - Lead Service/Agency(Title 10 Authority): Transition Manager
- **Two-Four Years, or less, to final demonstration/prototype**
 - Two year support for residuals and transition
- **Multiple Funding Sources**
 - OSD typically provides 10-30% of the funding

ACTD Goals

- **Develop Military Utility Analysis of concepts & technologies**
 - **Early & inexpensive**
 - **Does the concept make sense?**
 - **Done by the users**
- **Provide experience/insight for an informed acquisition decision**
 - Establish real requirements
 - Explore joint and coalition solutions
 - Develop real CONOPS
 - Try before buy
 - Find the 80% solution
- **Aim for early transition to acquisition or sustainment**
 - User and service decision
 - Accelerate the acquisition process
 - Sustain software products
- **Leave a “go to war” residual where appropriate including:**
 - ACTD products that can be used immediately
 - Viable CONOPS

ACTD Objectives for Success

- **Formal success objectives**
 - Transition to service/agency sponsored Program of Record
 - Satisfy operational requirement with residual
 - Confirm technology appropriate/inappropriate for military utilization
- **Operational success objectives**
 - Develop CONOPS/operational requirements employing ACTD technologies
 - Contribute technical elements into existing /new programs
- **Informal failure indicators**
 - Overlook technologies to solve known military problems
 - Allow spiraling technologies/requirements to postpone transition

ACTD Roles in Technology Transition

- **Promote joint requirements lacking service “critical mass”**
- **Demonstrate military utility for established communities**
- **Mitigate risk**
 - Try before buy
- **Provide rapid prototypes of leap-ahead technologies**
 - Accelerate transition by testing technical solutions & concepts
- **Introduce warfighters to hands-on, mature technologies**
 - Spur concurrent development of CONOPS & system requirements
 - Overcome institutional reluctance

TSV ACTD Organizational Structure

- Deputy Undersecretary of Defense, Advanced Systems & Concepts (AS&C) Chairs the TSV ACTD Oversight Group
- US Army is Lead Service
- Central Command (CENTCOM) is the Operational Manager
- PM Force Projection is the Technical Manager & the Transition Manager
- Combined Arms Support Command (CASCOM) is the Requirements Integrator and the Deputy Operational Manager
- Army Test & Evaluation Command (ATEC) provides operational test and evaluation support
- Naval Surface Warfare Combatant Craft Directorate (NSWCCD) assists in R&D and is technical tester

TSV ACTD Concept

- Lease Commercial Vessels - TSV-1X and HSV-X1
- Installation of Military Modifications / Applications
 - Suitability
 - Availability
 - Location
- Demonstrations w/multiple exercise scenarios
- Operational Use
- Test and Evaluation
- Military Utility Assessment
 - Technical performance
 - Operational Capability
 - Operational Affordability
- Evaluate Life-cycle Cost issues

High Speed Vessel Data Collection

- Continue collecting experiences and lessons learned:
 - HSV-X1, USAV Joint Venture
 - TSV-1X, USAV Spearhead
 - USN HSV-X2, Swift
 - USMC WESTPAC EXPRESS
 - Tirrenia Aries - Propulsion Test

TSV Operational Tenets/Requirements

- **Increase Throughput:** Soldiers, Equipment and Leaders Go Together

Reduce Battlespace RSO&I

- **Increase Survivability:** Threat Identification System
Active and Passive Capability
to Defeat Rockets/Missiles

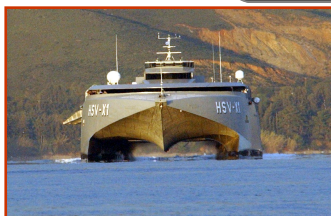
- **Increase Situational Awareness:** Army Crewed and Air
Enroute Mission Planning
Joint Interoperable Communications

- **Increase Responsiveness:** Rapid Worldwide Responsiveness
Access to Austere Ports
Increase Access Points within the Theater

- **Improve Closure Rates:** 36 to 50 knots (~31 to 58 mph)
Sustained Deployment Momentum
Offset/Complement Intra-theater Airlift
Provide Intermodal Operations Capability
Shallow Draft (less than 15 feet)



Increases Ports Accessible To JTF Commander By a Factor of Five



TSV ACTD Objectives

- Conduct high-speed, intra-theater lift of forces and equipment
- Establish and operate waterborne intra-theater lift for upload and discharge operations for containerized and palletized cargo
- Conduct Inland Waterways and Riverine Operations, Joint Logistics Over the Shore (JLOTS) & augment Amphibious Operations
- Integrate existing and emerging technologies

TSV Impact on RSO&I

Reduced Requirements for the AOR



Notional Force Structure

Required:

- LOGCAP
- Truck Company
- Cargo Transfer Company
- QM Company (Force Provider)
- Security Elements
- Medical Support
- LSV
- Ordnance Support
- Medium Boat Company
- Aircraft Maintenance Support
- Theater Transportation Command
- Admin/Finance Support
- Port Movement Control
- Engineer Support
- Movement Control Company
- QM Battalion
- Transportation Harbormaster
- Terminal Operations
- Rail Operating Company
- Airfield Control

TSV C4ISR ACTD Strategy

- **C4ISR IPT Concept** - Integration of existing / emerging C4ISR technologies into platforms
 - HSV-X1
 - TSV-1X
 - Surrogate Platforms
- **Benefits**
 - Demonstrate capabilities of various technologies for potential insertion into the OTSV
 - Identify C4ISR implications to MOS
 - Exploit operational capabilities of TSV
 - CONOPS, Tactics Techniques & Procedures (TTPs), Lessons-Learned
 - Risk mitigation
- **C4ISR Priority**
 - KU Band Capability and SIPRNET
 - Tactical Communications
 - Enroute Mission Planning and Rehearsal
 - Sensor Technology (warning systems FLIR, etc)
 - Special Mission Equipment
 - Self Defense Capabilities (Remote Weapons, hard/soft kill)

TSV C4ISR ACTD Path Forward

➤ Path Ahead (120 Days)

- Continue coordination with the CENTCOM and PACOM G-6 to determine mission requirements and exercise scenarios
- Upgrade existing HSV C4ISR Architecture to provide EMPR capability
- Install Secure Enroute Communications Package - Improved (SECOMP-I) and Enroute Mission Planning and Rehearsal (EMPR) capability into the TSV-1X
- Determine supportability and training requirement for HSV and TSV
- Provide contractor maintenance and training support for both the HSV and TSV

Develop

- Measures Of Performance (MOP)
- Measures Of Effectiveness (MOE)
- Test Plan

Army Vessel Comparison

Reached 48 knots
during Sea Trials

	HSV-X1	TSV-1X
Length	95.47m (313ft)	97.22m (319ft)
O/A	26.60m (87.3ft)	26.60m (87.3ft)
Beam O/A	4m (13.12ft)	3.43m (11.25ft)
Draft	~ 35kts (40.3mph), loaded	38kts (43.8mph), loaded
Speed	4 x CAT 3618 (38,621HP)	4 x Ruston 20RK270 (38,232HP)
	4 x Lips 120E	4 x Lips 120E

Engines

Waterjets



Lessons Learned from HSV- X1:

Modification for TSV-1X

	<u>HSV-X1</u>	<u>TSV-1X</u>
➤ Crew quarters/Berthing	No	✓
➤ Seating	Standard/284	Improved/292
➤ Deck space:	10,850sq.ft.	14,070sq.ft.
	4,036sq.ft.	(30%)
➤ Crew Galley and Mess	No	4,261sq.ft.
➤ Passenger Galley	No	(6%)
➤ Ramp	Quartering	✓
➤ Crew-served weapons and storage	(35T)	✓
➤ Mezzanine Deck	✓	Sleuable (72T)
➤ Enhanced staff planning space	✓	Improved
➤ Reverse Osmosis Water Purif. Unit	C4I/Adhoc	Removed (34T)
(ROWPU)	220Gal./day	Dedicated
➤ Other — trash compactor, red lighting, enhanced oily water storage	N/A	750Gal./day
	✓	✓
➤ Paint		No paint (~2T)

**96 of 104
Lessons Learned
Applied**

HSV-X1, USAV Joint Venture

What Have We Done

- Joint Army/Navy Program, Nov 01 - Aug 03
- Circumnavigated the Globe (40,000NM in 103 days) during FY01
- OEF Support: 22 missions in the AOR FY01-02
- AUSA 2002, Washington DC
 - Sailed up Potomac ISO Static Display/Media Event
- Exercises:
 - Millennium Challenge: Strategically repositioned halfway around the globe
 - Victory Strike (VS)
 - Lifted Stryker company 1369 miles
 - Strategically repositioned to Europe/supported VS - V Corps
- FY 03 - Under Navy Only Operations
- Navy turned over to Army in Aug 03



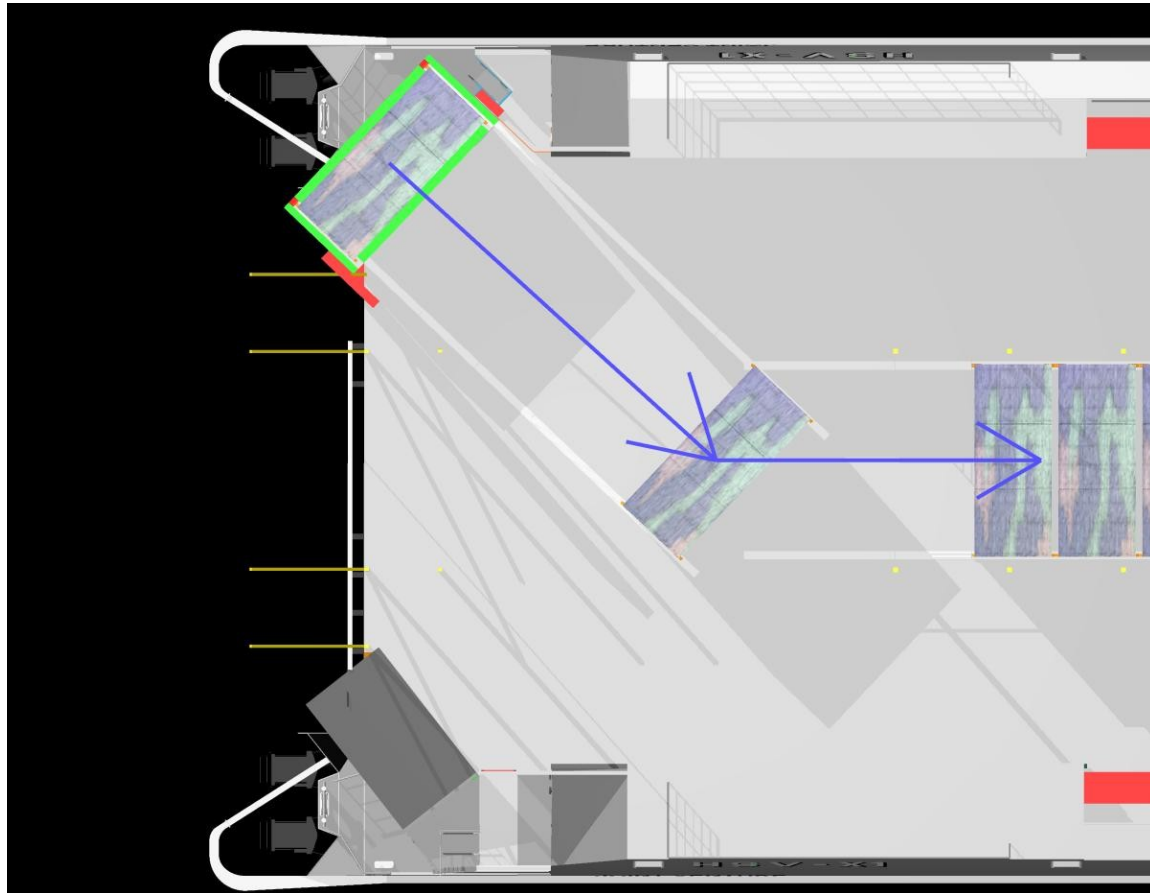
HSV-X1, USAV Joint Venture

Where Are We Going

- Currently in Hobart for maintenance and modifications
 - Sea Trials Completed
 - Re-certification of the Helo Deck
 - Army Crew currently undergoing HSV training and outfitting of ship
- Modifications Nearing Completion
 - Vessel Information Systems Interactive Telemetry (VISIT)
 - Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) Upgrades
 - Berthing Upgrades
 - Galley Upgrades
- Near Future
 - Travel to USARPAC (Feb 04)
 - USARPAC Crewed
 - Will Operate under USARPAC Control and participate in USFK/USARPAC Missions & Exercises during FY04
- Planned Future Endeavors
 - Container Handling System II (CHS II)
 - Lift System from Main deck to Helo deck
 - Helo lift and drop



CHS II Concept



PLAN OF OFFMISSIONEDCK

TSV-1X, Spearhead

What Have We Done

- Deployed in support of Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) since January 2003
 - 117 Missions through October 2003
 - 1385 passengers
 - 7445.60 short tons
 - 3124 pieces of cargo
 - 67,236 total miles
- Vessel operations have covered most of the CENTCOM AOR
 - providing speed and flexibility during sustainment deliveries
 - movement of Army prepositioned stock
- Movement Tracking System (MTS) Installed
- Army Crewed....Armed.... Certified....on D



TSV-1X, Spearhead

Where Are We Going

- Spearhead in Hobart for annual maintenance and modification upgrades
- Modifications include:
 - Ride Control (Retractable T-Foil)
 - Cargo Handling System (CHS)
 - Roller Floor
 - Load Transfer Devise
 - Overhead Crane
 - Secure Enroute Communications Package - Improved (SECOMP-I)
 - Significantly Improved Satellite Communications Link (KU SATCOM)
- On The Horizon
 - Layered Self Protection System
 - Active Defense Measures
 - Passive Defense Measures
 - Threat Identification System
 - Reconnaissance
 - Improved Movement Tracking System (MTS)
 - Others to be Identified

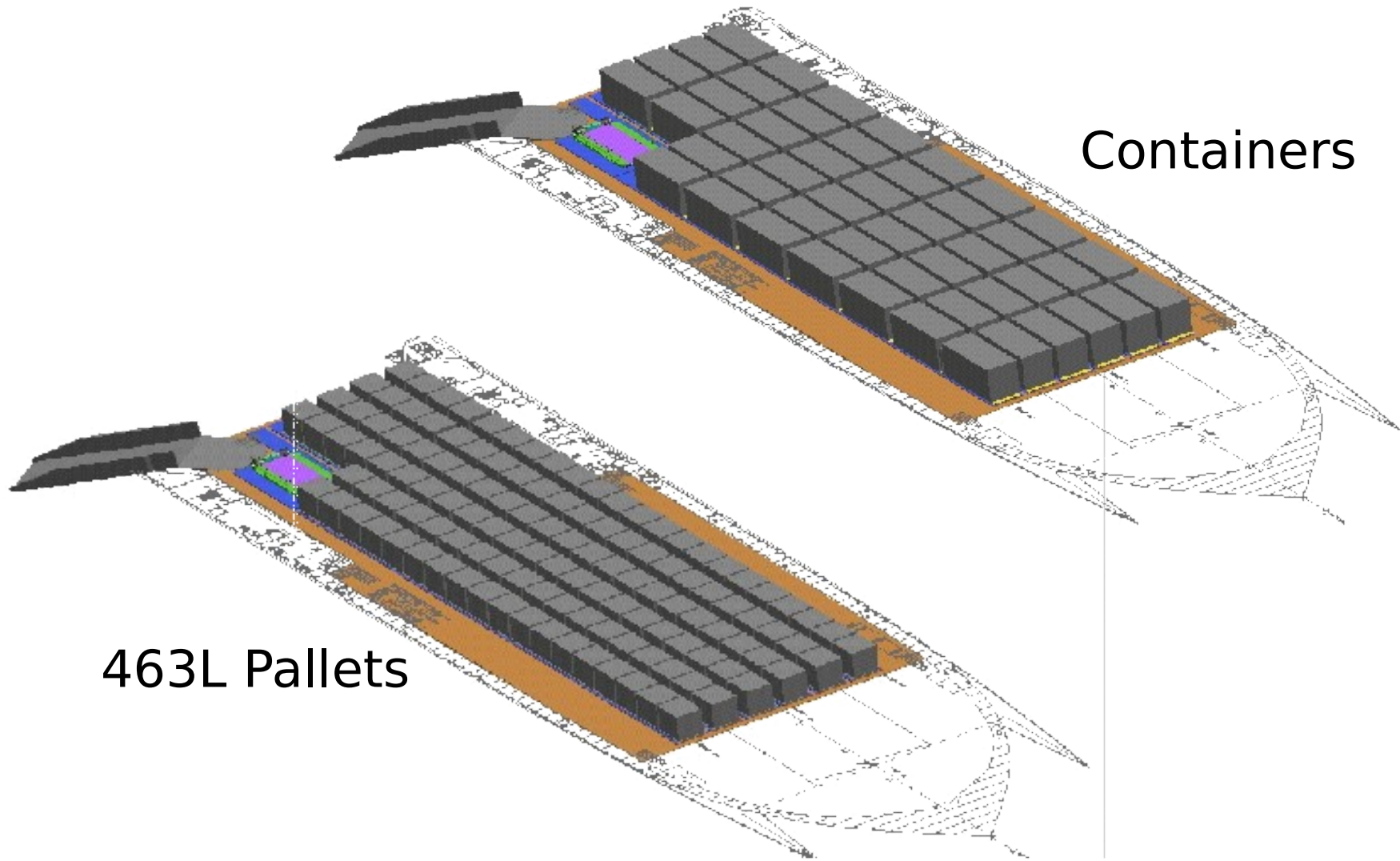




Container Handling System Floor Configurations For TSV-1X

BOEING PROPRIETARY

CHS On Contract



Load Transfer Device (LTD)

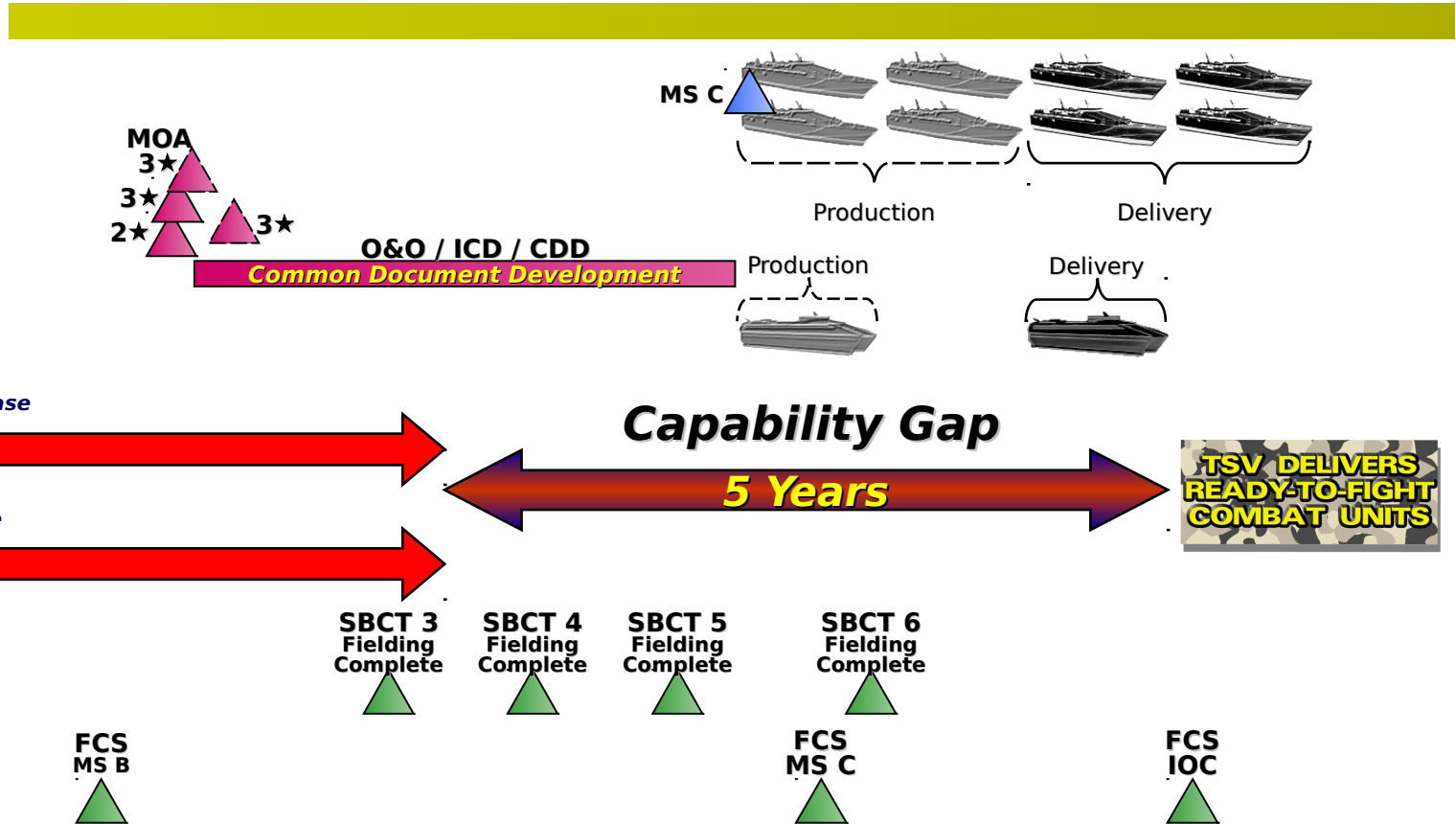


HSV / TSV ACTD Schedule

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
		CC AOR GAP						FP Symposium Norfolk, VA				
		Vessel Enroute to Hobart				Vessel Enroute to AOR						
TSV	CC AOR	Maint/Mods				CENTCOM AOR						
	Amy Wpn					Army Weapons						
TNG					Hobart Crew Prep							
HSV	Maint/Mods					PACOM AOR						
		Crew Prep										
						UNDERWAY						
TNG		FtEustis Safe/Sim	Hobart Crew Prep / Crew Tng			Exercise Foal Eagle	USFK / USARPAC	Exercise Cobra Gold	USFK / USARPAC			

HSV Departs Hobart

Army TSV Capability Gap FY08 Start - 4 Vessels in POM



Summary

The ACTD Program will provide a mechanism to demonstrate the true capability of the TSV while exploiting new technologies

TSV operational logistic and operational maneuver capability is a major paradigm shift, not just for Army Watercraft Systems, or the Army, but for all Combatant Commanders



POC Contact Information

786-, ACTD – Chris Maluchnik – (586) 574-7664, DSN
maluchnc@tacom.army.mil

786-, Future – Tracy Mitchell – (586) 574-5375, DSN
mitchelt@tacom.army.mil

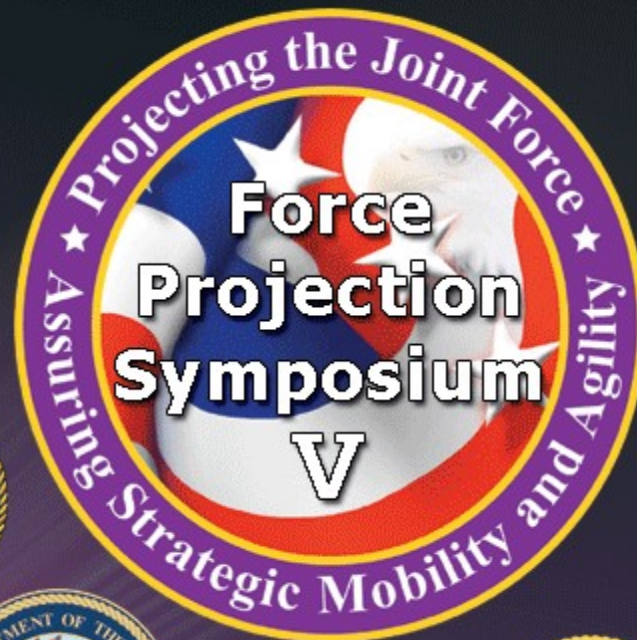


C4ISR – Pat Papa – (586) 574-5210, DSN 786-,
papap@tacom.army.mil

May 18-20, 2004

Sponsored by
PEO CS&CSS
PM Force Projection

Hosted by
National Defense
Industrial Association



Norfolk Marriott Waterside Hotel
Norfolk, VA

Co-Sponsors



POC: LTC Philip Schoenig
<http://peocscss.tacom.army.mil/pmfp>
fpsymposium@tacom.army.mil
586-574-8842

Symposium Tentative Agenda

Monday, 17 May 04

Golf Outing

Early Registration

Exhibitor Reception in Exhibit Hall

Tuesday, 18 May 04

Speakers Presentations

Indoor Exhibits

Evening Reception: Nauticus Maritime Museum and USS Wisconsin Battleship
Tour

Wednesday, 19 May 04

Demonstration Day at Fort Story (Joint Logistics over the Shore Operation)

Outdoor Displays

DoD Combat Feeding Buffet

Surf & Turf Buffet Social on Beach, Fort Story

Thursday, 20 May 04

Speakers Presentations

Indoor Exhibits

Golf Outing

Target Speaker Invitees

- **Honorable Donald Rumsfeld**, Secretary of Defense
- **Honorable Michael W. Wynne**, Under Secretary of Defense for Acquisition, Technology, and Logistics *
- **Ms. Robyn L Quinlan**, Assistant Director, Joint Forces Integration, USD (AT&L), OSD
- **SEN Carl Levin**, MI (D), Ranking Member, Armed Services Committee
- **SEN John Warner**, VA (R), Armed Services Committee - Declined
- **SEN George Allen**, VA (R), Commerce, Science & Transportation Committee
- **GEN Peter J. Schoomaker**, Chief of Staff of the Army
- **GEN John P. Jumper**, Air Force Chief of Staff
- **GEN Michael Hagee**, Commandant, United States Marine Corps
- **ADM Vern Clark**, Chief of Naval Operations
- **ADM Edmund P. Giambastiani**, US Joint Forces Commander
- **GEN John Abizaid**, Commander, US Central Command
- **GEN John Handy**, Commander, US Transportation Command
- **LTGEN Edward Hanlon Jr.**, Commanding General, Marine Corps Combat Development Command *
- **LTG James R. Helmsly**, Chief, United States Army Reserve
- **BG (P) Brian I. Geehan**, US Army Chief of Transportation *
- **BG Robert W. Cone**, Director, Joint Center Lessons Learned
- ~~**Ms. Felicia Stratton**, Editor, Inbound Logistics Magazine - Declined~~
- ~~**Mr. Keith Biondo**, Publisher, Inbound Logistics Magazine - Declined~~
- **LTG John M. McDuffie**, (US Army Ret.), Anteon Corp., Group VP, Defense Programs

JLOTS & Demonstration Day Intent

- **Who:** Joint service participation; demonstrate to the highest levels of military, government civilian, and industry leaders.
- **How:** Conduct a four phased, full scale bare beach JLOTS Operation during demonstration day 19 May 2004
- **Why:** Raise the Symposium quality level and expand our sphere of influence in the DOD Acquisition Community and the Joint military community. This symposium will bring together Government, Industry and Academia to stimulate an aggressive exchange of concepts and ideas for future force projection systems and doctrine.

FP SYMPOSIUM JLOTS '04

Concept of Operation

- **Concept of Operation**: A four-phased, full-scale bare operation conducting in-stream discharge of one or more using multiple discharge points.

Phase I - planning; pre-deployment activities

Phase II - deploy to area of operation

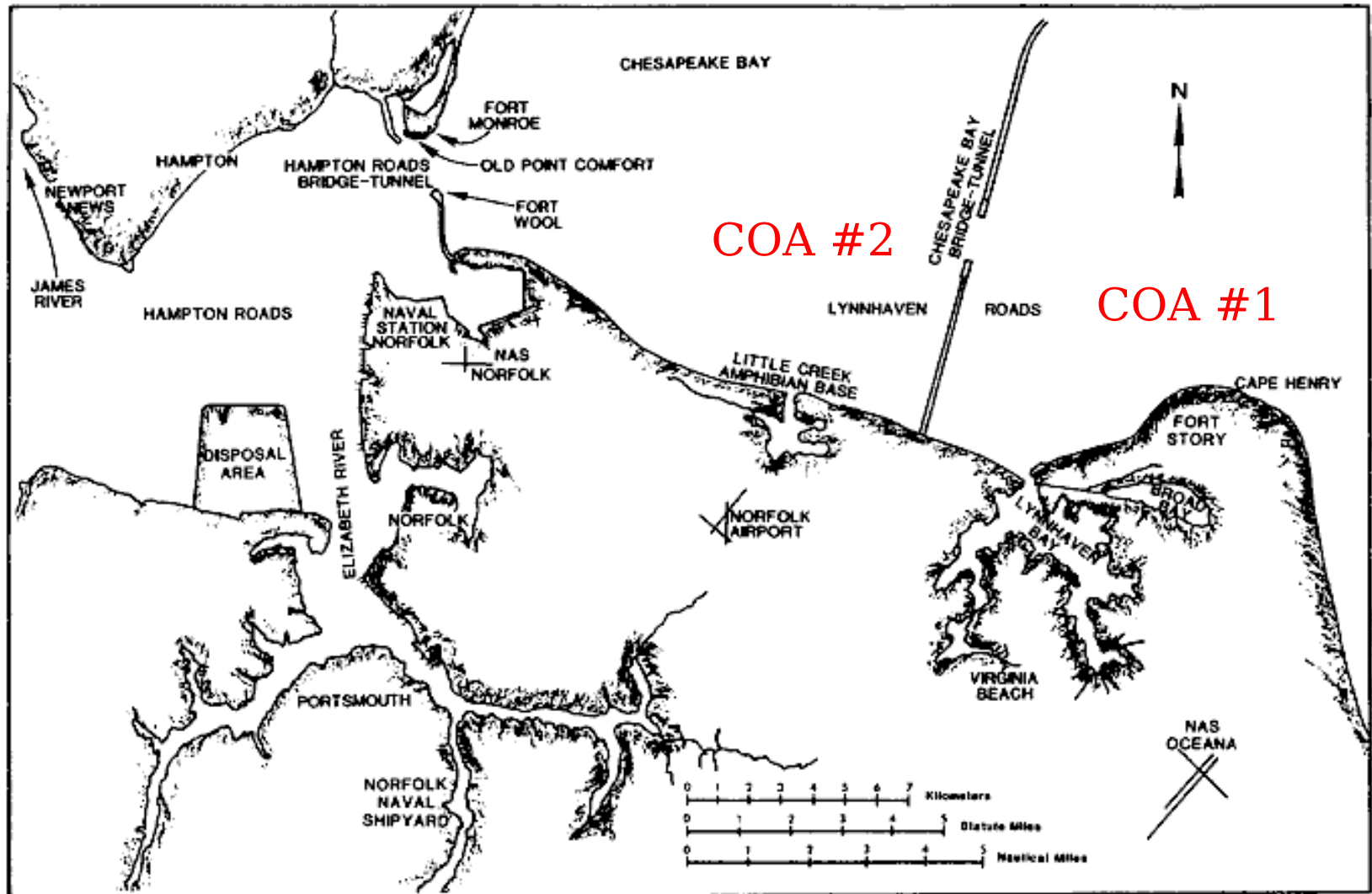
Phase III - execution (19 May 2004, Demo Day)

Phase IV - redeploy

JLOTS POC: LTC Jennifer Campbell, 7th Transportation Group S-3,
CampbellJK@eustis.army.mil, (757) 878-3309

FORCE PROJECTION SYMPOSIUM JLOTS '04

Concept of Operations



Norfolk and vicinity, showing locations of naval activities.

Force Projection Symposium V Web Links

- **PM Force Projection Website** <http://peocscss.tacom.army.mil/pmfp/>
 - Current Events Page
 - http://peocscss.tacom.army.mil/pmfp/events_current.htm
- **NDIA Website** <http://www.ndia.org/>
 - Force Projection Symposium V - Event #4710
 - http://register.ndia.org/interview/register.ndia?PID=Brochure&SID=_1500LGD9K&MID=4710
 - Registration opens 1 March 2004 on NDIA Web Site